

FORM PTO-1390

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER:
3102PCT/US

U.S. APPL. NO. 7,000,537 (see 37 CFR 1.5)

09/830959

INTERNATIONAL APPLICATION NO.:
PCT/FR99/02683

INTERNATIONAL FILING DATE:
3 November 1999

PRIORITY DATE CLAIMED:
3 November 1998

TITLE OF INVENTION: WATCH WITH RELATIVE READING

APPLICANT(S) FOR DO/EO/US: Marc DE SALIVET DE FOUCHECOUR

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
- a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☒ has been transmitted by the International Bureau. (see attached copy of PCT/IB/308)
- c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
- a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☐ have been transmitted by the International Bureau.
- c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
- d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Item 11. to 16. below concern document(s) or information included:

- | | | |
|-----|-------------------------------------|---|
| 11. | <input checked="" type="checkbox"/> | An Information Disclosure Statement under 37 CFR 1.97 and 1.98. |
| 12. | <input type="checkbox"/> | An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. |
| 13. | <input checked="" type="checkbox"/> | A FIRST preliminary amendment. |
| | <input type="checkbox"/> | A SECOND or SUBSEQUENT preliminary amendment. |
| 14. | <input type="checkbox"/> | A substitute specification. |
| 15. | <input type="checkbox"/> | A change of power of attorney and/or address letter. |
| 16. | <input checked="" type="checkbox"/> | Other items or information: |

International Preliminary Examination Report (PCT//PEA/409)
International Search Report (PCT//ISA/210)
Notice Informing The Applicant of the Communication of the International Application to the
Designated Offices(PCT//IB/308)
Abstract of the Disclosure on a separate sheet
Application Data Sheet

U.S. APPLICATION NO. (if known, see 37 CFR 1.55)

09/830959

INTERNATIONAL APPLICATION NO.
PCT/FR99/02683ATTORNEY'S DOCKET NO.
3102PCT/US

CALCULATIONS PTO USE ONLY

17. ☒ The following fees are submitted:**BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):**

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$ 1,000.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$ 860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$ 710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$ 690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$ 100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

\$ 860.00

Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

\$ 130.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$
Total claims	18 - 20 =	0	X \$18.00	\$
Independent claims	1 - 3 =	0	X \$80.00	\$
MULTIPLE DEPENDENT CLAIMS(S) (if applicable)			+ \$270.00	\$

TOTAL OF ABOVE CALCULATIONS =

\$ 990.00

Reduction of 1/2 for filing by small entity, if applicable. Applicant claims Small Entity Status under 37 CFR 1.27.

\$ 495.00

SUBTOTAL =

\$ 495.00

Processing fee of \$130 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.49(f)).

\$

TOTAL NATIONAL FEE =

\$ 495.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property

\$

TOTAL FEES ENCLOSED =

\$ 495.00

Amount to be
refunded:

charged:

a. ☒ A check in the amount of \$ **495.00** to cover the above fees is enclosed.b. ☐ Please charge my Deposit Account No. **25-0120** in the amount of \$ to cover the above fees. A duplicate copy of this sheet is enclosed.c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required by 37 CFR 1.16 and 1.17, or credit any overpayment to Deposit Account No. **25-0120**. A duplicate copy of this sheet is enclosed.

SEND ALL CORRESPONDENCE TO:

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May 3, 2001

By

Benoît Castel
Benoît Castel
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Marc DE SALIVET DE FOUCHECOUR

Serial No. (unknown)

Application Branch

Filed herewith

WATCH WITH RELATIVE READING

PRELIMINARY AMENDMENT

Commissioner for Patents

Washington, D.C. 20231

Sir:

Prior to the first Official Action and calculation of the filing fee, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Replace the paragraph that bridges pages 2 and 3 with the following paragraph:

--For this purpose, the invention relates in its most general acceptance, to a watch including a motor driving a first rotary hour indicator into rotation at a velocity of $1/N$ revolutions per hour, and a second rotary minute indicator driven by a concentric axis, characterized in that the minute indicator is driven at a velocity of $(N+1)/N$ revolutions per hour and in that the indicators each have a shape producing a global surface with a variable shape, by covering or juxtaposing the shapes of both needles.--

Page 6, replace the paragraph that begins at line 22 with following paragraph:

--Figs. 3 and 4 show an alternative of the first exemplary embodiment of the invention. The needles (31 and 32) have the shape of isosceles right-angled triangles. As the angle between these two indicators is the same according to the elapsed time with respect to the full hour, these elements always form a square at a full hour (Fig. 3) and a right-angled triangle at a quarter of an hour (Fig. 4). In this example, each of these conformations is repeatedly encountered with a period of exactly one hour.--

IN THE CLAIMS:

Amend claim 1 as follows:

--1. (amended) A watch including a motor driving a first hour rotary indicator into rotation according to a period of $1/N$ revolutions per day, and a second minute rotary indicator driven by a concentric axis, wherein the minute indicator (13, 23) is driven at a velocity of $(N+1)/N$ revolutions per hour, N is an integer, characterized in that the indicators each have a shape producing a cover or juxtaposition surface with a variable pattern.--

--4. (amended) The watch according to claim 1, characterized in that a first rotary indicator drives a mark for reading indications of the second rotary indicator.--

--11. (amended) The watch according to claim 9, characterized in that the minute indicator disc revolves in the opposite direction to that of the hour indicator disc.

--12. (amended) The watch according to claim 1, characterized in that the second indicator revolves at the velocity of $1+(N+1)/(60*N)$ revolutions per minute.--

--13. (amended) The watch according to claim 1, characterized in that the minute and hour indicators are indicators having the same color in order to form a additive variable covering or juxtaposition surface.--

--14. (amended) The watch according to claim 1, characterized in that the indicator which is in the foreground, has the same color as the background of the dial in order to form a subtractive variable covering or juxtaposition surface.--

--15. (amended) The watch according to claim 1, characterized in that the minute indicator, the hour indicator and the background have three differentiated colors in order to form a combinatory covering or juxtaposition surface.--

--16. (amended) The watch according to claim 1, characterized in that it has an annular peripheral ring bearing hour marks, wherein said ring is rotatively mobile in order to provide angular displacement according to the time zone.--

--17. (amended) The watch according to claim 1, characterized in that one of the indicators is a diametral

rectilinear indicator and the other indicator has a spiral shape with a U-turn.--

--18. (amended) The watch according to claim 1, characterized in that the minute indicator is located below that for the hours.--

R E M A R K S

The above changes in the specification and claims merely place this national phase application in substantially the same condition as it was during Chapter II of the international phase, with the multiple dependencies being removed.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Respectfully submitted,

YOUNG & THOMPSON

By

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May 3, 2001

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Replace the paragraph that bridges pages 2 and 3 with the following paragraph:

For this purpose, the invention relates in its most general acceptance, to a watch including a motor driving a first rotary hour indicator into rotation at a velocity of $1/N$ revolutions per hour, and a second rotary minute indicator driven by a concentric axis, characterized in that the minute indicator is driven at a velocity of $N+1/N(N+1)/N$ revolutions per hour and in that the indicators each have a shape producing a global surface with a variable shape, by covering or juxtaposing the shapes of both needles.

Page 6, replace the paragraph that begins at line 22 with following paragraph:

Figs. 3 and 4 show an alternative of the first exemplary embodiment of the invention. The needles (301 and 302) have the shape of isosceles right-angled triangles. As the angle between these two indicators is the same according to the elapsed time with respect to the full hour, these elements always form a square at a full hour (Fig. 3) and a right-angled triangle at a quarter of an hour (Fig. 4). In this example, each of these conformations is repeatedly encountered with a period of exactly one hour.

IN THE CLAIMS:

1. A watch including a motor driving a first hour rotary indicator into rotation according to a period of $1/N$ revolutions per day, and a second minute rotary indicator driven by a concentric axis, wherein the minute indicator (13,

23) is driven at a velocity of $\frac{N+1}{N(N+1)/N}$ revolutions per hour, N is an integer, characterized in that the indicators each have a shape producing a cover or juxtaposition surface with a variable pattern.

4. The watch according to ~~any of the preceding~~ claims 1, characterized in that a first rotary indicator drives a mark for reading indications of the second rotary indicator.

11. The watch according to claim 9, characterized in that the minute indicator disc revolves in the opposite direction to that of the ~~minute~~hour indicator disc.

12. The watch according to ~~any one of the preceding~~ claims 1, characterized in that the second indicator revolves at the velocity of $1 + (N+1)/(60 \cdot N)$ revolutions per minute.

13. The watch according to ~~any of the preceding~~ claims 1, characterized in that the minute and hour indicators are indicators having the same color in order to form a additive variable covering or juxtaposition surface.

14. The watch according to ~~any of claims 1 to 12~~, characterized in that the indicator which is in the foreground, has the same color as the background of the dial in order to form a subtractive variable covering or juxtaposition surface.

15. The watch according to ~~any of claims 1 to 12~~, characterized in that the minute indicator, the hour indicator and the background have three differentiated colors in order to form a combinatory covering or juxtaposition surface.

16. The watch according to ~~any of the preceding~~ claims 1, characterized in that it has an annular peripheral

ring bearing hour marks, wherein said ring is rotatively mobile in order to provide angular displacement according to the time zone.

17. The watch according to ~~any of claims 1 to 12~~, characterized in that one of the indicators is a diametral rectilinear indicator and the other indicator has a spiral shape with a U-turn.

18. The watch according to ~~any of the preceding claims~~ 1, characterized in that the minute indicator is located below that for the hours.

3/PRTS

WATCH WITH RELATIVE READOUT

The present invention relates to the field of clock making.

A watch, regardless of its type (clock, pendulum clock, bracelet watch, alarm clock...) usually includes a
5 main dial including hour marks, generally 12 hour marks, as well as marks corresponding to minutes, generally 12 marks each spaced out by 5 minutes.

Two concentric needles, generally the foreground needle for minutes and the background needle for hours,
10 run along this dial so that the hour and the minutes may be read by estimating the position of each of these needles with respect to the marks of a fixed dial.

European Patent EP209335 describing a clock mechanism driving the hour needle into a motion of 30° per hour and
15 the minutes needle into a rotation of 360° per hour, is known.

In the state of the art, French Patent FR368617 describing a clock dial wherein the hour needle is fixed to a central disc which bears divisions indicating the
20 minutes and which revolves with it, is also known. At each whole hour, both needles are then in the same direction

and mark the same hour on a crown encircling the central disc.

In these documents of the nearest prior art, the indicators consist of fine and linear needles, the hour
5 needle bearing the dial for reading the minutes.

Such watches of the prior art involve a risk of confusion as their reading seems identical to that of a watch with traditional needles, whereas the indication is radically different.

10 The object of the present invention is to provide a new clock mechanism, producing new visual effects and providing a new method for reading the time, without any risk of confusion with traditional watches. The object of the invention is to retain the surprising aspect of
15 watches complying with the state of the art as discussed by Patent FR368617, while however finding a remedy to the technical disadvantages resulting from the visual closeness of the needle-shaped indicators to the usual needles of a watch.

20 For the purpose the invention is directed to a watch including two indicators, producing a pattern formed by both indicators which is either additive (if for example, they are of the same color), or subtractive (if the indicator which is in the foreground has the same color as
25 the background), or combinatory if there are more than three colors.

For this purpose, the invention relates in its most general acceptance, to a watch including a motor driving a first rotary hour indicator into rotation at a velocity of
30 $1/N$ revolutions per hour, and a second rotary minute indicator driven by a concentric axis, characterized in

that the minute indicator is driven at a velocity of $N+1/N$ revolutions per hour and in that the indicators each have a shape producing a global surface with a variable shape, by covering or juxtaposing the shapes of both needles.

5 Such a realization enables visual effects from variable juxtaposition, superposition and covering of a surface to be produced so that it may be read free from any ambiguity and very succinctly as the exact time may be perceived intuitively in a glance, without having to break
10 down the reading process out into two steps, one for perceiving the hour, the other for perceiving the fractions of an hour.

 According to a first alternative embodiment, N is equal to 12.

15 According to a second alternative embodiment, N is equal to 24.

 According to a first embodiment, reading the indications is accomplished by estimating the angular difference between both indicators.

20 With an alternative embodiment the indications may be read through generated geometrical conformations according to the relative position of the indicators and allowed by the shape of these indicators.

 Preferably, a rotary indicator drives a mark for
25 reading indications of the second rotary indicator. These marks are positioned in order to facilitate reading. In a particular embodiment, the mark for reading the indications of the second rotary indicator is formed by a concentric dial with both indicators, secured to the first
30 hour indicator.

 Advantageously, said concentric dial has marks spaced

out by $360/k$ degrees, wherein k is an integer.

According to an alternative, the marks allow the indications to be read by means of their pattern or color configurations.

5 According to another embodiment, the hour indicator is formed by a plane element secured to the driving axis in a substantially peripheral point, and extending along a main radio axis substantially up to the edge of the main dial of the watch, and in that the minute indicator is
10 formed by a second plane element secured to the driving axis at a substantially peripheral point, extending along a main radial axis substantially up to the edge of the main dial of the watch and placed in the foreground.

Preferably, both plane elements consist of discs.

15 Advantageously, both discs have a radius substantially equal to half the radius of the main dial of the watch.

According to an alternative, the minute indicator disc revolves in the reverse direction with respect to the
20 hour indicator disc. In this case, the time course of the visible quarters complies with the moon's phases.

According to an alternative, a third second rotary indicator is driven by the same motor. This indicator is driven at the velocity of $1+(N+1)/(60*N)$ revolutions per
25 minute.

According to a first alternative, the minute and hour indicators are indicators having the same color in order to form an additive variable covering or juxtaposition surface.

30 According to a second alternative, the indicator which is in the foreground has the same color as the

background of the dial in order to form a subtractive variable covering or juxtaposition surface.

According to a third alternative, the minute indicator and the background have three differentiated colors in order to form a combinatory covering or juxtaposition surface.

According to a particular embodiment, the watch has an annular peripheral ring bearing time markings, wherein said ring is rotatively mobile in order to provide angular displacement depending on the time zone.

In the same way as for the hour indicator/minute indicator pair, one skilled in the art may adapt the types of aforementioned marks to the minute indicator/second indicator pair.

The invention will be further described in detail in what follows, with reference to the appended drawings wherein:

- Fig. 1 shows a front view of a first exemplary embodiment of a watch according to the invention;

- Fig. 2 shows a front view of a second exemplary embodiment of a watch according to the invention;

- Figs. 3 and 4 show a front view of a third exemplary embodiment of a watch according to the invention, at different times;

- Fig. 5 shows a front view of another exemplary embodiment of a watch according to the invention with a spiral-shaped minute needle.

Fig. 1 shows a first exemplary embodiment of a watch according to the invention.. It includes a fixed dial (1), disc-shaped in the described example, bearing hour marks (2, 3, 4, 5). A needle (6) constitutes the hour indicator.

It is driven by a central axis (7). This needle is secured to a rotary central element (8), accomplishing a rotation in 12 hours. The central disc (8) has marks (9-12) corresponding to the minutes.

5 A needle (13) driven by an axis concentric with the main driving axis (7) and the central element (8) accomplishes 13 rotations in 12 hours, with respect to the fixed system of reference consisting of the body of the watch and the fixed dial (1), i.e. about 1.08333
10 revolutions per hour.

Reading the hours is accomplished by estimating the position of the hour needle (6) with respect to the hour marks (2-5) provided on the fixed dial.

Reading of the minutes is accomplished by estimating
15 the position of the minute needle (13) with respect to marks (9-12) provided on the mobile dial (8).

The watch according to this embodiment attracts attention by the fact that both needles (6) and (13) are aligned and superimposed at each full hour, are aligned
20 and opposite at each half hour, and are at right angles at each quarter of an hour, whatever the time of the day.

Figs. 3 and 4 show an alternative of the first exemplary embodiment of the invention. The needles (30 and 31) have the shape of isosceles right-angled triangles. As
25 the angle between these two indicators is the same according to the elapsed time with respect to the full hour, these elements always form a square at a full hour (Fig. 3) and a right-angled triangle at a quarter of an hour (Fig. 4). In this example, each of these
30 conformations is repeatedly encountered with a period of exactly one hour.

Fig. 2 shows a second exemplary embodiment of a watch according to the invention. It also includes a fixed dial (1) and two concentric central axes (24), one driving a discal element (22) for indicating the hours and the other a discal element (23) for indicating the minutes. The discs are fixed on the corresponding axis at a peripheral point. The diameter of the discs (22, 23) substantially corresponding to the radius of the main dial (1).

The discal element (22) accomplishes a rotation in 12 hours. Reading the hour is accomplished by estimating the position of the end of a radial axis with respect to the fixed dial (1). To facilitate reading, the discal element (22) may have a mark (26), for example a hole or a contrasted point.

The discal element (23) is in the foreground. It is driven into rotation at a velocity $N+1$ times greater than that of the discal element (22).

Reading the minutes is accomplished by estimating the covering or juxtaposition level of the hour discal element (22) by the minute discal element (23).

At the half-hour, both elements (22, 23) are in opposition and they do not cover each another. At the full hour, both discs (22, 23) entirely cover each another.

Between the full hour and the half-hour, the minute disc (23) progressively uncovers the hour disc (22), which will assume the shape of a waning moon quarter.

Between the half-hour and the next hour, the minute disc (23) gradually covers the hour disc (22), which will assume the shape of a waxing moon quarter.

The hour disc (22) may be white, and the minute disc (23) black, or any other combination of colors exhibiting

a contrast.

The description which follows refers to the preferred embodiments.

In a first type of model, the indicator of the hours and that of the minutes have practically the same shape (half-disc, off-centered disc, inside of a spiral, rhombus, etc), have the same axis which does not pass through their center of gravity and are superimposed at each exact hour. The minute indicator may have the same color as the background of the watch, which enables the hour to be read by the surface portion of the hour indicator left visible by the minute indicator. A marking of the minutes may be borne by one or the other of the indicators or by both of them.

Another embodiment may be obtained by having the minute indicator bear a dial, whether circular or not, with minutes written in an opposite direction to the rotation direction of the indicators, so that the value of the minutes may directly be located on the hour indicator.

In another model illustrated in Fig. 5, the hour indicator is a rectilinear needle (30) of medium width, i.e. which is not reduced to a line, extending from the center to the periphery of the dial, and the minute indicator (31) has a spiral shape which makes a complete turn. The pitch may be constant or variable. The hour indicator has transverse graduated marks (32-34), spaced out radially depending on the pattern of the spiral-shaped needle. In such a way, the minutes may be read by the position of their indicator, but also by means of the intersection between the spiral-shaped needle and the graduated hour needle.

An alternative of the preceding model may be obtained by exchanging the shapes of both indicators, another one by using a diametral rectilinear indicator and the other by having a spiral shape with a U-turn.

5 An alternative embodiment goes back to the various principles above with the minute indicator located below the one for the hours.

10 Each model may be provided with a system which enables the unit formed by the indicators, the background of the watch and the caliber to turn as a whole with respect to the cradle and to the bracelet so as to display times corresponding to other time zones. Actually, in all the time zones at a given instant, the elapsed minutes since the full hour are the same and correspond for a watch according to the invention to the same angular difference between the hour and minute indicators.

15 The invention may give rise to different alternatives, wherein the essential feature lies in the fact that at least one of the indicators is a 20 2-dimensional flat element.

CLAIMS

1. A watch including a motor driving a first hour rotary indicator into rotation according to a period of $1/N$ revolutions per day, and a second minute rotary indicator driven by a concentric axis, wherein the minute indicator
5 (13, 23) is driven at a velocity of $N+1/N$ revolutions per hour, N is an integer, characterized in that the indicators each have a shape producing a cover or juxtaposition surface with a variable pattern.
- 10 2. The watch according to claim 1 characterized in that N is equal to 12.
3. The watch according to claim 1 characterized in that
15 N is equal to 24.
4. The watch according to any of the preceding claims characterized in that a first rotary indicator drives a mark for reading indications of the second rotary indicator.
20
5. The watch according to claim 4 characterized in that the hour rotary indicator (6, 22) drives a mark for reading the indications of the second rotary indicator.
- 25 6. The watch according to claim 5 characterized in that the mark for reading the indications of the minute rotary indicator (13) is formed by a dial (8) concentric with both indicators (6, 13), secured to the hour indicator (6).

7. The watch according to claim 6 characterized in that said concentric dial (8) has marks spaced out by $360/k$ degrees, wherein k is an integer.

5

8. The watch according to claim 1 characterized in that the hour indicator is formed by a plane element (22) secured to the driving axis at a substantially peripheral point, and extending according to a main radial axis substantially up to the edge of the main dial of the watch, and in that the minute indicator is formed by a second plane element (23) secured to the driving axis at a substantially peripheral point, extending according to a radial main axis substantially up to the edge of the main dial of the watch and placed in the foreground.

10
15

9. The watch according to claim 8 characterized in that both plane elements consist of discs (22, 23).

10. The watch according to claim 9 characterized in that both discs have a radius substantially equal to half the radius of the main dial of the watch.

20

11. The watch according to claim 9 characterized in that the minute indicator disc revolves in the opposite direction to that of the minute indicator disc.

25

12. The watch according to any of the preceding claims, characterized in that the second indicator revolves at the velocity of $1+(N+1)/(60*N)$ revolutions per minute.

30

13. The watch according to any of the preceding claims, characterized in that the minute and hour indicators are indicators having the same color in order to form a additive variable covering or juxtaposition surface.

5

14. The watch according to any of claims 1 to 12, characterized in that the indicator which is in the foreground, has the same color as the background of the dial in order to form a subtractive variable covering or juxtaposition surface.

10

15. The watch according to any of claims 1 to 12, characterized in that the minute indicator, the hour indicator and the background have three differentiated colors in order to form a combinatory covering or juxtaposition surface.

15

16. The watch according to any of the preceding claims, characterized in that it has an annular peripheral ring bearing hour marks, wherein said ring is rotatively mobile in order to provide angular displacement according to the time zone.

20

17. The watch according to any of claims 1 to 12, characterized in that one of the indicators is a diametral rectilinear indicator and the other indicator has a spiral shape with a U-turn.

25

18. The watch according to any of the preceding claims, characterized in that the minute indicator is located below that for the hours.

30

ABSTRACT OF THE DISCLOSURE

A watch comprising a motor driving in rotation a first rotary hour indicator at a period of $1/N$ revolution per day, and a second rotary minute indicator driven by a concentric axis. The invention is characterized in that the minute indicator (13, 23) is driven at a speed $(N + 1)/N$ revolutions per day, N being a whole number.

Fig.1

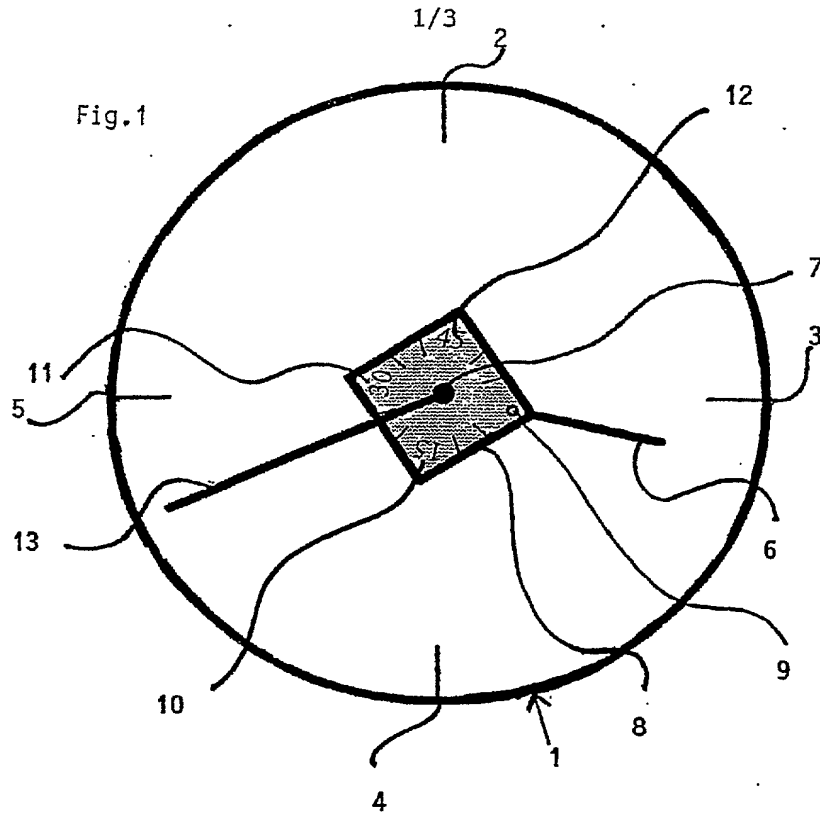
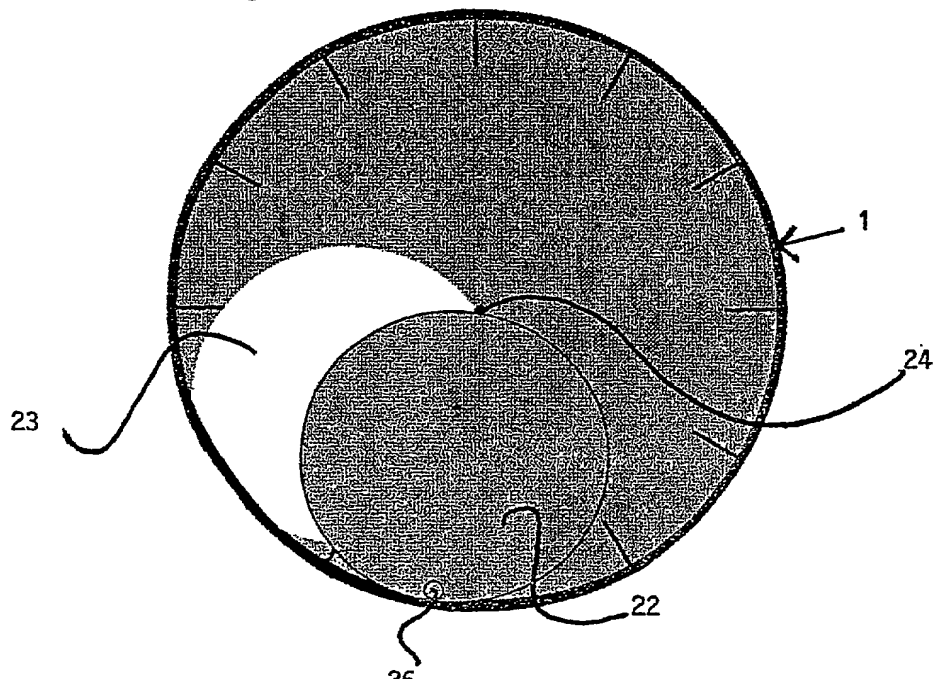


Fig.2



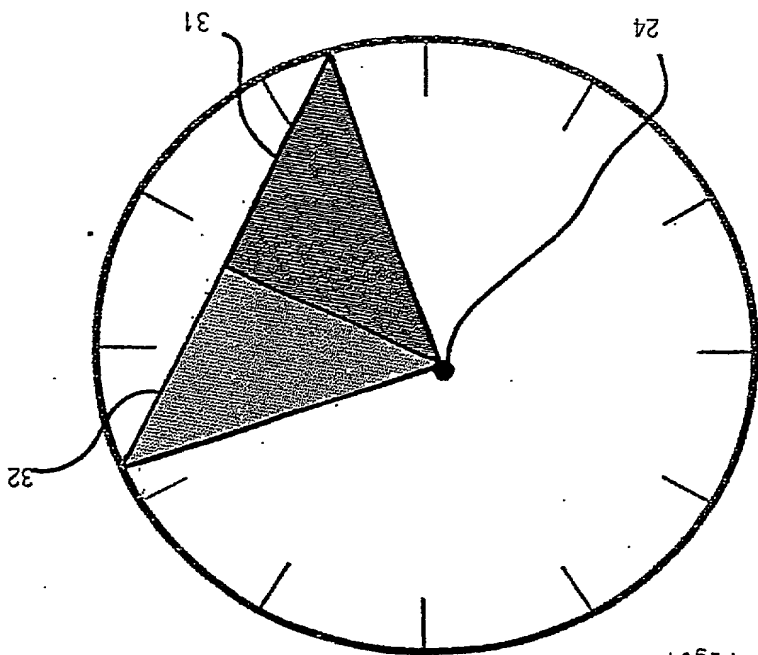


Fig. 4

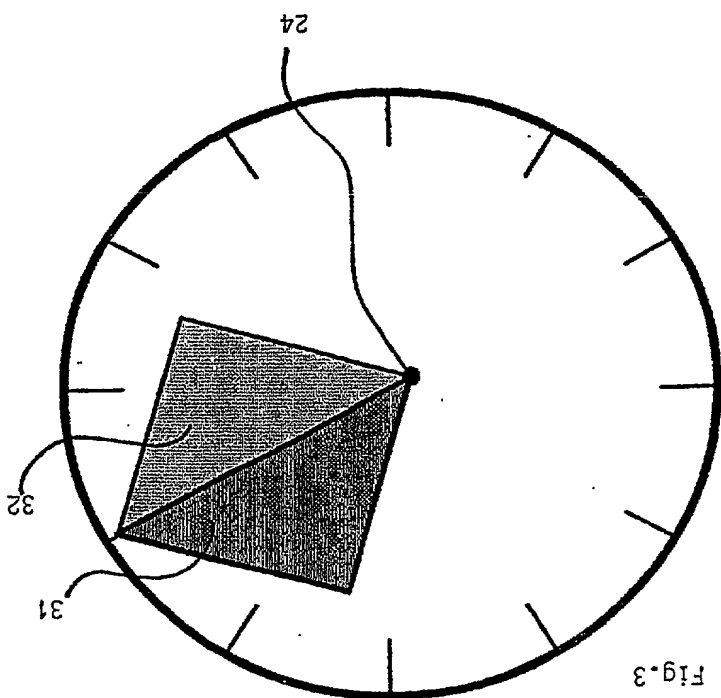
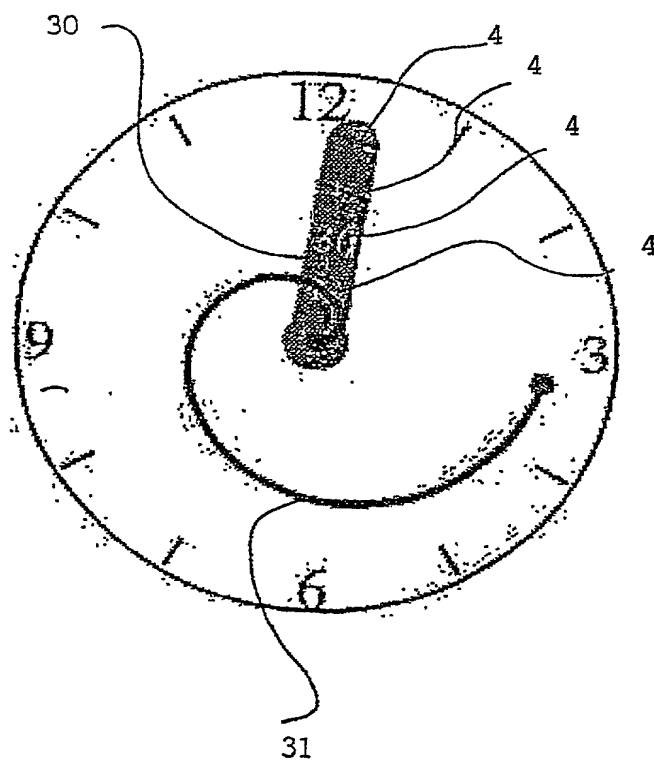


Fig. 3

2/3

Fig.5



COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

WATCH WITH RELATIVE READOUT

the specification of which: *(check one)*

REGULAR OR DESIGN APPLICATION

☐ is attached hereto.

☐ was filed on _____ as application Serial No. _____ and was amended on _____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

☒ was described and claimed in International application No. PCT/FR99/02683 filed on 3 November 1999 and as amended on 11 November 2000 (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

PRIORITY CLAIM

I hereby claim foreign priority benefits under 35 USC 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)

Country	Application Number	Date of Filing (day, month, year)	Priority Claimed
France	98/13824	3 November 1998	Yes

(Complete this part only if this is a continuing application.)

I hereby claim the benefit under 35 USC 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 USC 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Application Serial No.)

(Filing Date)

(Status--patented, pending, abandoned)

POWER OF ATTORNEY

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from **Breese Majerowicz Simonnot** as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

As a named inventor, I hereby appoint the registered patent attorneys represented by Customer No. **000466** to prosecute this application and transact all business in the Patent and Trademark Office connected therewith, including: **Robert J. PATCH, Reg. No. 17,355, Andrew J. PATCH, Reg. No. 32,925, Robert F. HARGEST, Reg. No. 25,590, Benoît CASTEL, Reg. No. 35,041, Thomas W. PERKINS, Reg. No. 33,027, Roland E. LONG, Jr., Reg. No. 41,949 and Eric JENSEN, Reg. No. 37,855,**

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00466

PATENT TRADEMARK OFFICE

Address all telephone calls to Young & Thompson at 703/521-2297. Telefax: 703/685-0573.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor: Marc DE SALIVET DE FOUCHECOUR
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Inventor's signature

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